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# Carnegie Endowment for International Peace

DIVISION OF ECONOMICS AND HISTORY

JAMES RATER CLARK, DIRECTOR

## PRELIMINARY ECONOMIC STUDIES OF THE WAR

REVIEWED BY

DAVID LORBERY

Professor of Political Economy, University of Illinois  
Secretary of Committee of Research of the Endowment

No. 3

## DIRECT COSTS OF THE PRESENT WAR

BY

ERNEST L. BOGART

Professor of Economics, University of Illinois

NEW YORK

OXFORD UNIVERSITY PRESS

AMERICAN BRANCH, 20 WEST 33RD STREET

London, Toronto, Melbourne and Bombay

1918



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No. 5

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## INTRODUCTORY NOTE BY THE DIRECTOR

The Division of Economics and History of the Carnegie Endowment for International Peace is organized to "promote a thorough and scientific investigation of the causes and results of war." In accordance with this purpose a conference of eminent statesmen, publicists, and economists was held in Berne, Switzerland, in August, 1911, at which a plan of investigation was formed and an extensive list of topics was prepared. An elaborate series of investigations was undertaken, and, if the war had not intervened, the resulting reports might have been expected, before the present date, in printed form.

Of works so undertaken some aim to reveal direct and indirect consequences of warfare, and thus to furnish a basis for a judgment as to the reasonableness of the resort to it. If the evils are in reality larger and the benefits smaller than in the common view they appear to be, such studies should furnish convincing evidence of this fact and afford a basis for an enlightened policy whenever there is danger of international conflicts.

Studies of the causes of warfare reveal, in particular, those economic influences which in time of peace bring about clashing interests and mutual suspicion and hostility. They show what policies, as adopted by different nations, reduce the conflicts of interest, inure to the common benefit, and afford a basis for international confidence and good will. They tend, further, to reveal the natural economic influences which of themselves bring about more and more harmonious relations and tend to substitute general benefits for the mutual injuries that follow unintelligent self-seeking. Economic internationalism needs to be fortified by the mutual trust that just dealing creates; but just conduct itself may be favored by economic conditions. These, in turn, may be created partly by a natural evolution and partly

by the conscious action of governments; and both evolution and public action are among the important subjects of investigation.

An appeal to reason is in order when excited feelings render armed conflicts imminent; but it is quite as surely called for when no excitement exists and when it may be forestalled and prevented from developing by sound national policies. To furnish a scientific basis for reasonable international policies is the purpose of some of the studies already in progress and of more that will hereafter be undertaken.

The war has interrupted work on rather more than a half of the studies that were in progress when it began, but it has itself furnished topics of immediate and transcendent importance. The costs, direct and indirect, of the conflict, the commercial policies induced by it and, especially, the direct control, which because of it, governments are now exercising in many spheres of economic activity where formerly competition and individual freedom held sway, are phenomena that call, before almost all others, for scientific study. It is expected that most of the interrupted work will ultimately be resumed and that, in the interim before this occurs, studies of even greater importance will be undertaken and will be pushed rapidly toward completion.

The publications of the Division of Economics and History are under the direction of a Committee of Research, the membership of which includes the statesmen, publicists, and economists who participated in the Conference at Berne in 1911, and two who have since been added. The list of members at present is as follows:

Eugène Borel, Professor of Public and International Law in the University of Geneva.

Lujo Brentano,<sup>1</sup> Professor of Economics in the University of Munich; Member of the Royal Bavarian Academy of Sciences.

Charles Gide, Professor of Comparative Social Economics in the University of Paris.

<sup>1</sup> Membership ceased April 6, 1917, by reason of the declaration of a state of war between the United States and the Imperial German Government.

H. B. Greven, Professor of Political Economy and Statistics in the University of Leiden.

Francis W. Hirst, London.

David Kinley, Professor of Political Economy in the University of Illinois.

Henri La Fontaine, Senator of Belgium.

His Excellency Luigi Luzzatti, Professor of Constitutional Law in the University of Rome; Secretary of the Treasury, 1891-1893; Prime Minister of Italy, 1908-1911.

Gotaro Ogawa, Professor of Finance at the University of Kioto, Japan.

Sir George Paish, London.

Maffeo Pantaleoni, Professor of Political Economy in the University of Rome.

Eugen Philippovich von Philippsberg,<sup>1</sup> Professor of Political Economy in the University of Vienna; Member of the Austrian Herrenhaus, Hofrat.

Paul S. Reinsch, United States Minister to China.

His Excellency Baron Y. Sakatani, formerly Minister of Finance; formerly Mayor of Tokio.

Theodor Schiemann,<sup>2</sup> Professor of the History of Eastern Europe in the University of Berlin.

Harald Westergaard, Professor of Political Science and Statistics in the University of Copenhagen.

Friedrich Freiherr von Wieser,<sup>3</sup> Professor of Political Economy in the University of Vienna.

The function of members of this Committee is to select collaborators competent to conduct investigations and present reports in the form of books or monographs; to consult with these writers as to plans of study; to read the completed manuscripts and to inform the officers of the Endowment whether they merit publication in its series. This editorial function does not com-

<sup>1</sup> Died, June, 1917.

<sup>2</sup> Membership ceased April 6, 1917, by reason of the declaration of a state of war between the United States and the Imperial German Government.

<sup>3</sup> Membership ceased December 7, 1917, by reason of the declaration of a state of war between the United States and Austria-Hungary.

mit the members of the Committee to any opinions expressed by the writers. Like other editors, they are asked to vouch for the usefulness of the works, their scientific and literary merit, and the advisability of issuing them. In like manner the publication of the monographs does not commit the Endowment as a body or any of its officers to the opinions which may be expressed in them. The standing and attainments of the writers selected afford a guarantee of thoroughness of research and accuracy in the statement of facts, and the character of many of the works will be such that facts, statistical, historical, and descriptive, will constitute nearly the whole of their content. In so far as the opinions of the writers are revealed, they are neither approved nor condemned by the fact that the Endowment causes them to be published. For example, the publication of a work describing the attitude of various socialistic bodies on the subject of peace and war implies nothing as to the views of the officers of the Endowment on the subject of socialism; neither will the issuing of a work, describing the attitude of business classes toward peace and war, imply any agreement or disagreement on the part of the officers of the Endowment with the views of men of these classes as to a protective policy, the control of monopoly, or the regulation of banking and currency. It is necessary to know how such men generally think and feel on the great issue of war, and it is one of the purposes of the Endowment to promote studies which will accurately reveal their attitude. Neither it nor its Committee of Research vouches for more than that the works issued by them contain such facts; that their statements concerning them may generally be trusted, and that the works are, in a scientific way, of a quality that entitles them to a reading.

JOHN BATES CLARK,  
*Director.*

## EDITOR'S PREFACE

Before the war broke out financial prophets told us that the economic burden entailed by it would be so great as to make its long continuance impossible. But thoughtful students of history were well aware that wars once entered into were not stopped because of their tremendous costs. The present war is no exception, and probably will continue until one side or the other is in a position to enforce its terms. In the midst of the terrible conflict no appeal for peace can successfully be made on the basis of destruction of wealth. Nor should it be in this war, at any rate. For so far as the United States and her allies are concerned, the other issues involved far outweigh the utmost economic destruction that can be imagined as the result of the war.

However, the matter of cost is of great interest as well as of importance from two points of view. Many people are surprised that the countries involved have been able to incur the waste of war through so long a period. The surprise, however, exists because of a common misconception concerning the source of a country's economic ability to bear war. War is not waged with wealth accumulated in gold or silver; nor, for any length of time, even with accumulated munitions of war. If a country's agricultural and industrial forces are sufficient to supply what is necessary to feed and clothe the people, including the army, the country may continue war indefinitely so far as concerns the "sinews of war." The important thing is that the supply of food, clothing, and munitions and implements of war shall be continuous and adequate. That continuity of supply depends on the natural resources of the country and the population not included in the fighting line. In such a condition, even if a country could not buy anything abroad, it could continue in war. Moreover, it could, while at war, buy abroad as long as its supply of gold lasted and its credit was good, provided, of course, it could insure that the goods bought would get to its

ports. If a country at war is not able to get goods from abroad and if, at the same time, the population which it can spare from the army is not sufficient to supply continuously from its own natural resources the minimum needs of the civil population and the army, then it is bound, in the long run, to become economically weak and to lose the war; but the period through which a country can carry on a war, even under these conditions, is indefinite. Therefore, there is no real ground for surprise at the duration of the present struggle.

However, a study of the costs of the war is interesting and important from another viewpoint. It helps us more easily to determine not only the burden we are creating for ourselves and our posterity, but it assists us in deciding how great a proportion of our expenditures may well come from taxation rather than loans. Of course, there is a limit to income from the former source even in peace time. We can not without disaster push taxation to the impairment of capital; but this limit, after all, is somewhat elastic.

The expenditures for the war so far are staggering to the imagination. By the end of last December, according to our author's figures, the direct war expenditures of the Entente Allies were about \$79,500,000,000, while that of the Central Powers and their allies was about \$38,500,000,000, making a grand total of about \$118,000,000,000 to represent the direct expenditure for this awful carnage. As the author well remarks, "after all deductions and allowances are made the economic cost remains an appalling one." But unborn generations will continue to pay the costs in other ways than money. Human vitality, morality and all that makes for the welfare both of the individual and society have been so disorganized that it will take a long time for the world to recover. To be sure there are some compensations. Just what these are and how they may be valued we can not clearly tell until peace comes. Meanwhile, while we can not now stop to count the cost, that cost should be one of the warning lessons of the future.

DAVID KINLEY,  
*Editor.*

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## DIRECT COSTS OF THE PRESENT WAR

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The cost of a war is measured in life, destruction of property, loss of economic efficiency and prestige, and lowering of normal standards of consumption along many lines. It is impossible to appraise such varied values by any unit of measurement, and some of them are clearly not reducible to monetary valuation. In the following pages therefore only the direct outlays of the governments, which are matters of usual financial procedure, are taken into account. These events are still so recent, the necessity for haste so urgent, that in most cases the governments themselves have not as yet absolutely correct statements of their expenditures, revenues and loans. But every effort has been made in this study to secure official and accurate information.<sup>1</sup> If errors have been made it has probably been through the omission of items which should have been included. The tables err, if at all, therefore, on the side of conservatism.

For convenience in checking up the figures in the following tables with the original sources, the pound sterling has been estimated at \$5.00, the rouble and yen at 50 cents, the mark at 25 cents, and the franc, lira, and krone at 20 cents.

<sup>1</sup> The chief sources of information have been the English *Finance Accounts*, the French *Journal Officiel*, the Russian *Yearbook*, the German *Statistisches Jahrbuch*, the *Report of the Secretary of the Treasury* of the United States; the budget speeches of the various ministers of finance; and the more important financial journals, such as *The Statist*, *The Economist*, the *Bankers' Magazine*, *The Commercial and Financial Chronicle*, *Schanz Finanz-Archiv*, the *Revue de Science et de la Législation financières*.

## UNITED STATES

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In spite of its late entrance into the world war the expenditures of the United States, by reason of their magnitude, already rival those of the leading European belligerents. From the very day of its entrance into the struggle, on April 6, 1917, the expenditures have shown a startlingly rapid growth. These may be given by months as follows, excluding advances to the Allies, the last three peace months being given also by way of comparison.

### EXPENDITURES OF THE UNITED STATES

1917	Monthly	Daily
January .....	\$79,910,714	\$2,577,765
February .....	75,844,498	2,708,406
March .....	72,773,903	2,347,545
April .....	81,599,598	2,719,986
May .....	114,102,810	3,680,736
June .....	134,304,040	4,776,801
July .....	208,299,031	6,719,323
August .....	277,438,000	8,949,613
September .....	349,013,305	11,337,768
October .....	465,045,360	14,904,690
November .....	512,952,035	17,098,401
December .....	611,297,425	19,719,272
Total.....	\$2,982,580,719	\$97,540,306

It is not possible at this time to tell exactly how this money has been spent, but an approximate idea may be secured from a statement of the expenditures for the fiscal years ending June 30, 1917 and 1918. This is given in the following table, together with the figures for the previous year, for purposes of comparison:

OBJECTS OF EXPENDITURES<sup>1</sup>

Purpose	1915-16	1916-17	1917-18 *
Civil establishment .....	\$380,911,373	\$425,565,747	\$1,995,886,359
Military establishment .....	132,185,275	409,789,321	8,964,443,485
Naval establishment .....	155,029,426	257,166,437	1,609,178,036
Rivers and harbors .....	32,450,301	30,487,560	38,295,750
Panama Canal .....	17,503,728	13,112,130	23,739,099
Public debt .....	22,910,313	24,742,129	93,454,000
Miscellaneous .....	1,016,310	34,028,110	344,120
 Total.....	 \$742,006,726	 \$1,194,891,434	 \$12,725,340,849
Purchase of obligations of foreign governments .....		885,000,000	†3,351,400,000
 Total.....	 \$2,079,891,434		 \$16,076,740,849

\* Appropriations.

† Actual for period July 1-December 31, 1917.

In endeavoring to separate the expenditures attributable to war, no serious error will be made if the expenditures for 1915-16 be regarded as normal and the difference between the figures for this year and those for the two subsequent years be regarded as war expenditures. This would give war expenditures of \$452,884,708 for the period April 6-June 30, 1917, to which must be added the advances to the Allies of \$885,000,000, giving a total of \$1,337,884,708 for the first three months. For the next six months, July 1-December 31, 1917, half of the appropriations for the year 1917-18 less the corresponding amount for 1915-16 gives \$5,991,667,062. If to this be added the loans to the Allies during this period, the total war expenditures from July 1 to December 31, 1917, appear to be \$9,343,067,062.

In similar fashion the war revenues may be estimated. The following table gives the actual receipts for 1916 and 1917 and the estimates for 1918.

<sup>1</sup> Report of Secretary of the Treasury.

## REVENUES OF THE UNITED STATES

Source	1915-16	1916-17	1917-18
Customs .....	\$213,185,845	\$225,962,393	\$220,000,000
Internal revenue:			
Ordinary .....	303,486,474	354,387,426	973,000,000
Emergency .....	84,278,302	95,297,554	.....
Corporation income tax....	56,993,658	179,572,888	535,000,000
Individual income tax.....	67,943,595	180,108,340	666,000,000
Excess profits tax.....	.....	.....	1,226,000,000
Sales of public land .....	1,887,662	1,892,893	1,800,000
Miscellaneous .....	52,012,529	80,952,632	265,000,000
Total .....	\$779,788,065	\$1,118,174,126	\$3,886,800,000
Less normal revenues .....		779,788,065	779,788,065
War revenues .....		\$338,386,061	\$3,107,011,935

Large as were the additions to revenue secured by the additional taxes, especially those imposed by the war revenue act of October 6, 1917, they were quite inadequate to the new demands upon the Treasury. About 20 per cent of the war expenditures to the end of 1917 were raised by taxation and about 80 per cent by loans. The loans contracted by the government during this period were as follows:

## WAR BORROWINGS OF UNITED STATES

Character	April 6-June 30	July 1-Dec. 31
First Liberty loan 3½%, June, 1917*.....	\$1,466,335,094	\$520,434,902
Second Liberty loan, 4%, Nov., 1917*.....		3,449,972,008
Certificates of indebtedness (net).....	918,205,000	691,172,000
1 year Treasury notes.....	4,390,000	27,362,000
War savings and thrift stamps.....		14,052,277
Total .....	\$2,388,930,094	\$4,702,993,187

\*These amounts represent receipts of the Treasurer of the United States on account of principal received. Financial Statement of the United States Government, Dec. 31, 1917.

The results of these various tables may now be combined so as to give a summary view of the operations of the government during the nine months of its participation in the war. The relation of expenditures, revenues, and loans are briefly set forth in the following table:

## WAR EXPENDITURES AND RECEIPTS

Period	Expenditures	Revenue Receipts	Loans
April 6-June 30, 1917.....	\$1,327,472,000	\$338,386,000	\$2,388,930,000
July 1-Dec. 31, 1917.....	9,343,072,000	1,553,506,000	4,702,993,000
Total .....	\$10,670,544,000	\$1,891,892,000	\$7,091,923,000

From the expenditures here given the advances to the Allies must be deducted as these sums appear in the tables of borrowings by those governments. Subtracting then the total sum of \$4,236,400,000 which had been thus loaned down to December 31, 1917, there is left as the net war expenditures of the United States during this period the sum of \$6,434,000,000.

## ENGLAND

---

War between England and Germany was declared on August 4, 1914, and the day following Parliament authorized a vote of credit for \$500,000,000. To provide the sum thus authorized the Chancellor of the Exchequer proceeded to issue Treasury bills and also secured advances from the Bank of England for a total amount of \$800,000,000. These provided the necessary funds until the first war loan was made in November.

This loan, for \$1,750,000,000, consisted of 3½ per cent bonds, maturing between 1925 and 1928, issued at 95; their real yield was thus about 4 per cent. Subscriptions up to the end of the fiscal year (March 31, 1915) brought into the Treasury the sum of \$1,450,000,000. In addition to this popular loan the Treasury also sold 3 per cent five year Exchequer bonds to the amount of \$238,500,000.

In line with a time honored policy England early resorted to taxation to meet at least part of the war expenditures. As a result of old-age pensions and other social legislation on behalf of the working classes the public expenditures of England had been growing rapidly during the past ten years, and with them her tax revenues. The last budget, of May 4, 1914, had proposed new taxes amounting to about \$67,595,000 for the coming year, and these were authorized in July. But in November, 1914, additional taxation was imposed which was calculated to bring in about \$66,800,000 more to the end of the fiscal year.

But while the receipts were increased by over \$130,000,000 the expenditures had been growing at a much more rapid rate. For the first eight months of the war they were as follows:

WAR EXPENDITURES BY QUARTERS, 1914-15<sup>1</sup>

Period	No. of Days	Per Quarter	Per Day
Aug. 4-Sept. 30, 1914.....	58	\$351,155,000	\$5,975,000
Oct. 1-Dec. 31, 1914.....	92	930,490,000	10,115,000
Jan. 1-March 31, 1915.....	90	1,202,890,000	13,365,000
Aug. 4, 1914-March 31, 1915....	240	\$2,484,535,000	\$10,352,300

The growing war expenditure was met and more than met by resort to borrowing, and the year ended with a comfortable balance in the Treasury. The receipts and expenditures for the year 1914-15, including eight months of war, and also for the last complete peace year are shown in the following table:

RECEIPTS AND EXPENDITURES, 1913-1915<sup>2</sup>

Fiscal Year	Expenditures	Revenue Receipts	Loans
1913-1914 .....	\$987,464,840	\$991,214,485	.....
1914-1915 .....	2,802,365,000	1,133,470,000	\$2,827,888,115
Aug. 1, 1914-March 31, 1915...	2,491,799,900	858,793,720	2,827,888,115

The close of the fiscal year 1914-15 saw Great Britain well prepared to assume the enormous financial burdens which it was already clear she would be called upon to assume. The national debt had been nearly doubled as a result of eight months of war, but this was to increase even more rapidly thereafter.

BRITISH DEBT, MARCH 31, 1915<sup>3</sup>

Prewar debt* .....		\$3,538,270,550
Treasury bills (net).....	\$308,250,000	
3 per cent Exchequer bonds, 1920	238,500,000	
3½ per cent war loan.....	1,480,000,000	
Miscellaneous borrowings .....	802,138,115	
 Total war debt.....		 2,828,888,115
 Total debt.....		 \$6,367,158,665

\*Parliamentary Paper No. Cd. 7426.

When the new fiscal year opened it was clear that the war was not to end as speedily as had been at first optimistically

<sup>1</sup> *The Statist*, July 7, 1917, p. 17.

<sup>2</sup> *Finance Accounts*. See also *The Economist* (London), April 7, 1917, p. 618.

<sup>3</sup> *The Statist*, Oct. 6, 1917, p. 557.

anticipated. The expenditures for the coming twelve months were estimated at \$5,663,270,000 and revenue receipts were expected to yield about \$1,351,660,000, leaving the balance of \$4,311,610,000 to be met by loans.<sup>1</sup>

The immediate needs of the Treasury were met by the sale of short term securities. Treasury bills were issued in large amounts at comparatively low rates of interest, and by June 21 the amount of bills outstanding was \$1,175,000,000. It was felt unwise further to swell the floating debt, and on this date the second war loan was announced.

This loan consisted of 4½ per cent bonds redeemable in 10 years and payable in 30 years. It was subject to taxation, was unlimited in amount, and was made available to small subscribers in denominations as low as \$25. From this loan a total of \$2,961,725,000 was received by the Treasury, of which about half represented conversions of Consols and other prewar debt.

The proceeds of this loan sufficed to meet the expenditures of the next three or four months, but war costs were mounting up beyond all expectation and it was clear that a more vigorous use of taxation would have to be made. The progressive increase of the war expenditures is shown in the following table:

WAR EXPENDITURES BY QUARTERS, 1915-16

Period	No. of Days	Per Quarter	Per Day
April 1-June 30, 1915.....	91	\$1,292,365,000	\$14,200,000
July 1-Sept. 30, 1915.....	92	2,080,120,000	22,610,000
Oct. 1-Dec. 31, 1915.....	92	2,127,100,000	23,120,000
Jan. 1-March 31, 1916.....	91	2,297,205,000	25,230,000
	366	\$7,796,790,000	\$21,302,705

Accordingly in September drastic increases were made in taxation, especially in the income and super taxes. An excess profits tax was also introduced and various additions made to indirect taxes. These proved to be even more lucrative than had been estimated and the fiscal year closed with receipts considerably

<sup>1</sup> Debates, Commons, Vol. 71, col. 1009.

larger than had been anticipated. The result of the year's financial operations was as follows:

RECEIPTS AND EXPENDITURES, 1915-16

Fiscal Year	Expenditures	Revenue Receipts	Loans
1915-16	\$7,796,790,000	\$1,683,834,120	\$5,826,597,785

To meet these growing demands the Chancellor of the Exchequer was forced to make use of every credit device available. To the credit of England it should be said, however, that at no time has any suggestion been made for a resort to paper money. In addition to the 10-30 year loan of June recourse was also had to short-term Exchequer bonds, to loans in the United States, to war expenditure and war savings certificates, and at all times to Treasury bills. From all of these sources a total of some \$6,628,735,000 was secured, from which must be subtracted the repayment of the advances of the Bank of England. The net borrowings are shown in the following table:

BRITISH LOANS, 1915-16

Treasury bills (net) .....	\$2,444,090,000
3½ per cent war loan, 1925-28.....	*178,990,000
4½ per cent war loan, 1925-45.....	2,961,725,900
3 per cent Exchequer bonds, 1920.....	†129,345,000
5 per cent Exchequer bonds, 1920.....	768,445,000
Ways and Means advances (net).....	99,480,000
Other debt (net).....	45,000,000
War Savings 5-year certificates.....	6,250,000
5 per cent Anglo-French loan.....	254,100,000
 Total .....	\$6,628,735,900
Less miscellaneous repayments.....	<u>802,138,115</u>
 Net loans .....	\$5,826,597,785

\* Through conversions; \$303,870,000 in issue.      † Net amount retired.

Large as were these sums the needs of the next fiscal year were larger still. The interest and sinking fund charges for the new debt alone now amounted to \$335,000,000. Every effort was made to cut down civil expenditures. The road improvement fund was abandoned and appreciable savings made in other consolidated

fund services. But the remorselessly growing costs of the war quickly wiped out these economies and constituted a demand for ever greater sums. By the end of the year the daily costs were over \$35,000,000. Their steady growth is indicated in the following table:

WAR EXPENDITURES BY QUARTERS, 1916-17

Period	No. of Days	Per Quarter	Per Day
April 1-June 30, 1916.....	91	\$2,222,800,000	\$24,425,000
July 1-Sept. 30, 1916.....	92	2,301,210,000	25,015,000
Oct. 1-Dec. 31, 1916.....	92	3,305,585,000	35,930,000
Jan. 1-March 31, 1917.....	90	3,160,970,000	35,620,000
	365	\$10,990,565,000	\$30,111,137

Of these expenditures loans contributed 78.1 per cent, while taxes alone made up only 18.6 per cent. It was felt that this constituted too wide a departure from the ideal of the Napoleonic and Crimean wars when 47 per cent of the cost of the war had been met out of taxation. Accordingly a determined effort was made during the fiscal year 1916-17 to increase still further the revenue from taxes. The income tax was raised to 5s. in the pound or 25 per cent on incomes between \$655 and \$10,000. The rate of the excess profits tax was raised from 50 to 60 per cent. Existing rates of customs and excise duties were doubled and quadrupled and many new indirect taxes were introduced. From all these sources it was hoped to secure about \$1,275,000,000 new tax revenue, or a total for the year of about \$2,850,000,000. The actual receipts and expenditures for the year were as follows:

RECEIPTS AND EXPENDITURES, 1916-17

Fiscal Year 1916-17	Expenditures \$10,990,563,550	Revenue Receipts \$2,867,137,910	Loans \$8,114,065,000

Even with this stupendous increase in the burden of taxation, which the English people accepted without murmuring, it was necessary to rely mainly upon loans to raise the \$11,000,000,-000 which the war cost England this year. About one-third of the additional tax revenues was needed to meet the increased interest charges on the debt, so that not much assistance could

be looked for from this source to meet the direct costs of the war. Short term Exchequer bonds to a total amount of over \$1,750,000,000 were sold bearing 5 and 6 per cent interest. Two loans were floated in the United States and one in Japan. War savings and war expenditure certificates were utilized to secure the savings of small investors, and finally in January, 1917, a third war loan was floated.

This loan consisted of 5 per cent bonds, redeemable 1929-1947 and issued at 95, and 4 per cent bonds redeemable 1929-1942 issued at par, but exempt from taxation. Subscriptions amounted to \$5,001,564,750,<sup>1</sup> but only \$3,901,885,000 was covered into the Treasury before the end of the fiscal year. With the proceeds of this loan it was possible to retire the outstanding Treasury bills as well as to provide fresh funds for war purposes. The net borrowings of the year are shown in the following table:

BRITISH LOANS, 1916-17

Treasury bills .....	* \$511,355,000
4 and 5 per cent war loan, 1929-47.....	3,901,885,000
5 per cent Exchequer bonds, 1921.....	312,480,000
5 per cent Exchequer bonds, 1920.....	420,700,000
5 per cent Exchequer bonds, 1919.....	171,315,000
6 per cent Exchequer bonds, 1920.....	804,760,000
Do., Japanese issue.....	50,000,000
Ways and Means advances (net).....	988,150,000
Other debt (net).....	716,450,000
War Savings 5 year certificates.....	363,750,000
War Expenditure 2 year certificates.....	118,255,000
5½ per cent collateral loan in U. S.....	300,000,000
5½ per cent collateral loan in U. S.....	250,000,000
<hr/>	
Total .....	\$8,135,940,000
Less miscellaneous repayments.....	21,865,000
<hr/>	
Net loans.....	\$8,114,075,000

\* Net amount retired.

The cost of the war during the entire fiscal year ending March 31, 1918, can not of course be given at this time, but a fairly accurate statement may be made of actual costs up to the end of the calendar year 1917. The progressive increase in war ex-

<sup>1</sup> Only \$110,000,000 were subscribed for in the tax free bonds.

penditures has been maintained, as the following figures indicate:

WAR EXPENDITURES BY QUARTERS, 1917-18

Period	No. of Days	Per Quarter	Per Day
April 1-June 30, 1917.....	91	\$3,356,435,000	\$36,885,000
July 1-Sept. 30, 1917.....	92	3,283,830,000	35,695,000
Oct. 1-Dec. 31, 1917.....	92	3,505,905,000	38,105,000
	275	\$10,146,170,000	\$36,895,164

In spite of the growing costs only slight additions to existing tax revenues were proposed, hardly enough indeed to care for the increased interest charges. The budget estimates for the year's expenditures were surpassed, while the revenues did not meet expectations, so that greater resort had to be made to borrowing than had been anticipated. The following table shows the actual transactions for the first nine months of the fiscal year:<sup>1</sup>

RECEIPTS AND EXPENDITURES, APRIL 1-DEC. 31, 1917

Period	Expenditures	Revenue Receipts	Loans
April 1-Dec. 31, 1917	\$10,146,170,000	\$2,003,250,000	\$8,938,510,000

During this period the main sources of borrowings were Treasury bills, "other" debt, the balance of the third war loan, and war savings certificates. The loans from the United States government are included under "other" debt. These credit transactions may be stated as follows:

WAR BORROWINGS, APRIL 1-DEC. 31, 1917

Treasury bills .....	\$5,290,000,000
4 and 5 per cent loan of 1917* .....	1,089,520,000
5 per cent Exchequer bonds.....	410,550,000
War savings certificates† .....	150,000,000
Loan from U. S. government.....	2,045,000,000
Advances of Bank of England† .....	80,000,000
 Total.....	\$9,065,070,000
Less miscellaneous repayments† .....	125,000,000
 Net loans .....	\$8,940,070,000

\* The 5 per cent issue has been raised by conversion to over \$10,000,000,000, and the 4 per cent issue to over \$250,000,000.

† Estimate on basis of Treasury statement of Sept. 30 and weekly returns since.

<sup>1</sup> *The Economist* (London), Dec. 8, 1917, p. 906; *The Chronicle*, Jan. 5, 1918, p. 5.

Summing up the financial operations of the three and a half years of war, from August 1, 1914, to December 31, 1917, we find that England's national debt has grown from \$3,538,270,550 to \$28,390,000,000, or an increase of \$24,856,725,000. But from this sum may be deducted the advances made by Great Britain to the Allies and Dominions, including a gift from India. While they may not all be recoverable they should be treated as investments in estimating the cost of the war. These amounted on September 30, 1917, to \$6,630,000,000.<sup>1</sup> An allowance for the next three months would bring this item up to about \$7,041,000,000 by the end of the year. Subtracting this sum from the debt created during the war there is left a net debt created by England for war purposes of about \$17,815,000,000.

These expenditures include, however, the ordinary outlays for the army and navy since April 1, 1915, which in peace times amounted to about \$400,000,000 annually. This item may be calculated at \$1,100,000,000 for the period from April 1, 1915, to December 31, 1917. If this is subtracted the net cost of the war is reduced still further to about \$16,715,000,000.

To this sum must now be added the amounts collected by additional war taxation during this period, which has amounted to not less than \$3,750,000,000. This gives the net cost to Great Britain of three years and five months of war as \$20,465,000,000, or say in round numbers, \$21,000,000,000.

<sup>1</sup> Speech of A. B. Law, Chancellor of the Exchequer, on Oct. 30. *Chronicle*, Nov. 3, 1917, p. 1748.

## CANADA

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Canada has defrayed most of the war expenditures by means of loans, so that these measure fairly accurately the costs of the war to her. The following table shows these loans:

### WAR BORROWINGS OF CANADA, AUG. 1, 1914-DEC. 31, 1917

#### Internal Loans:

5% 15 year, Nov., 1915.....	\$100,000,000
5% 10 year, Sept., 1916.....	100,000,000
5% 20 year, March, 1917.....	150,000,000

#### Loans in U. S.:

5% 1 and 2 year notes, Aug., 1915.....	45,000,000
5% 5-15 year bonds, April, 1916.....	75,000,000
5% 2 year notes, Aug., 1917.....	100,000,000
4½% 10 year bonds in London.....	25,000,000
Advances by British government.....	200,000,000
Provincial and municipal loans .....	125,000,000
War savings certificates .....	10,000,000
5% 3 year debenture stock .....	10,000,000

Total ..... \$940,000,000

## AUSTRALIA

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The actual costs of the military and naval operations on the part of Australia have been met by means of borrowings. Additional taxes have been collected, but these have been absorbed by the growing civil expenditures and the charges on the war debt. War expenditures are shown in the following table:

### WAR EXPENDITURES OF AUSTRALIA

Fiscal Year July 1-June 30	Expenditures
1914-15 .....	\$75,000,000
1915-16 .....	225,000,000
1916-17 .....	350,000,000
1917-18 (6 mos.) .....	200,000,000
Total .....	\$850,000,000

To meet these expenditures the Commonwealth government has issued inconvertible paper money to an amount of probably not less than \$150,000,000. But the main reliance has been placed upon domestic loans. These operations are shown in the following table:

### WAR BORROWINGS OF AUSTRALIA, AUG. 1, 1914-DEC. 31, 1917

Internal Loans	
4½%, 1925, Aug., 1915.....	\$66,947,000
4½%, 1925, Feb., 1916.....	107,909,000
4½%, 1925, Aug., 1916.....	102,847,000
4½%, 1925, Feb., 1917.....	100,000,000
4½%, 1927, Nov., 1917.....	90,000,000
Advances by British government.....	238,800,000
	\$706,503,000
Inconvertible paper money .....	150,000,000
Total .....	\$856,503,000

## NEW ZEALAND

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The costs of the war to New Zealand have been about \$50,000,000, which have been met out of increased taxation. No loans seem to have been placed by this country.

## INDIA

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Part of the costs of the war to India have been borne by the British government and do not appear in the Indian financial statements. The following few loans have been made directly by India:

### WAR LOANS OF INDIA

4 per cent internal loan.....	\$15,000,000
5 per cent loan in London, April, 1917.....	500,000,000
Treasury bills in London.....	20,000,000
	<hr/>
	\$535,000,000

## FRANCE

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The financial situation in France was very unsatisfactory at the outbreak of the war. A deficit had been announced for the year 1914 and a loan was authorized on July 7 for \$161,000,000 in  $3\frac{1}{2}$  per cent 20 year bonds. By the beginning of August \$76,000,000 had been paid in, but the outbreak of the war made the further payments difficult, while the existence of this unfulfilled loan embarrassed the Treasury in its subsequent operations. Although it had been thirty-seven times oversubscribed, only \$119,947,200 had been paid in by the end of the year.

In order to meet the deficit in the budget, estimated at \$251,600,000 for 1914, an income tax had also been voted, but this was not to become operative until January 1, 1915. The invasion of France and the seizure of the richest industrial section of the northern part of the country, the withdrawal of men of productive age for military service, and the interruption of the normal economic activities of the people made it necessary to postpone the introduction of the income tax for still another year, and made the resort to other taxation to meet the costs of the war inadvisable.

As both loans and taxes seemed impossible, resort was had at the beginning to the financial assistance of the Bank of France. This institution stands in very close relations with the government, and in return for the renewal of its charter in 1897 for twenty-three years is under obligation to lend to the government in time of war at the nominal interest rate of one per cent.<sup>1</sup> In 1911 these compulsory advances had been fixed at \$580,000,000, but in September, 1914, they were increased to \$1,200,000,000, and in May, 1915, to \$1,800,000,000. During the first

<sup>1</sup> This rate will be raised to 3 per cent one year after the end of the war.  
*Journal des Economistes*, Oct., 1914, p. 64.

five months of the war, from August 1 to December 31, 1914, the actual advances of the Bank of France to the government amounted to \$785,000,000. These advances constituted about two-thirds of all the money borrowed.

In addition to the returns from the 3½ per cent loan and advances from the Bank of France, an appeal was also made direct to the small investors by the offer of short term Treasury bills, known as *bons de la defense nationale*. These bore 4 per cent when issued for three months and 5 per cent when issued for six months or one year. By the end of December about \$339,-400,000 of these had been sold.

The credit operations of the last five months of the year 1914 may be summarized as follows:

RECEIPTS BY BORROWING, AUG. 1-DEC. 31, 1914

Correspondents of the Treasury.....	\$80,704,000
Ordinary Treasury bills.....	23,824,000
<i>Bons de la defense nationale</i> .....	339,457,000
3½ per cent loan .....	43,947,000
Advances by Banks of France and of Algeria.....	<u>785,000,000</u>
Total .....	\$1,272,932,000

Of this sum \$30,401,000 were advances to foreign governments.

The opening of the year 1915 saw little change in the use of credit by France in meeting the costs of the war. As the yield of the existing taxes had fallen off 38.6 per cent below normal and new taxes were impossible, the loan policy was continued. Further advances by the Bank of France brought these up to \$1,000,000,000 by the end of the year. Floating debt to the amount of about \$1,300,000,000 was created, consisting for the most part of the *bons de la defense nationale*. Ten year 5 per cent bonds (*obligations de la defense nationale*) were issued in February; by the end of the year about \$760,000,000 had been issued, most of which were conversions of existing bonds. In October the Anglo-French loan was placed in the United States, netting the government altogether about \$240,000,000, of which \$80,020,000 were paid in during the year 1915. All these sums

proved insufficient, however, and in November the first national loan was issued.

This loan consisted of 5 per cent perpetual *rentes*, issued at 88. The yield was \$2,648,600,000, of which \$1,273,600,000 was cash and the remainder was Treasury bills and converted bonds. About \$2,200,000,000 was paid in before the end of the fiscal year. These transactions may be summarized in the following table:

RECEIPTS BY BORROWING, JAN. 1-DEC. 31, 1915 <sup>1</sup>	
Treasury bills .....	\$1,294,600,000
National defense obligations.....	126,400,000
Anglo-French loan in U. S.....	80,000,000
National war loan, Nov., 1915.....	2,193,400,000
Advances by Bank of France.....	230,000,000
Miscellaneous .....	46,800,000
 Total .....	 \$3,971,200,000

During the year 1916 the same loan policy was continued, the main reliance being placed upon short term Treasury bills, advances from the Bank of France, etc. But in November, 1916, a second permanent loan was necessary to take care of this mass of floating debt. This also consisted of a perpetual *rente* at 5 per cent and was issued at 88.75. The total subscriptions amounted to \$2,275,000,000.

It was becoming apparent, however, that additional sums must be raised by taxation. By the end of the year 1916 the interest on the new war debt alone amounted to \$510,220,000. Existing taxes, which were still slightly below normal, were quite insufficient to meet the ordinary civil budget and in addition this new charge. Accordingly an income tax and an excess war profits tax were imposed which went into effect during the year 1916. And by an act passed on December 30, 1916, a number of additional taxes were imposed and the rates of old ones raised. It was hoped that additional tax revenues would be secured from these sources for the year 1917 of about \$263,800,000. The most

<sup>1</sup> *Revue de Science et de Législation financières* (April-June, 1916), XIV, 2,279.

thorough-going reform in the French tax system was introduced by the act of July 31, 1917, which, however, was not to go into effect until January 1, 1918.

In spite of the substantial increase in the tax revenues resulting from these various acts, the additional receipts for 1916 were barely sufficient to meet the additional interest charges of the rapidly swelling debt. At the end of 1916 the interest charges on this new debt alone amounted to \$502,328,000. During this year the net borrowings of the government amounted to \$4,555,-800,000.

The year 1917, like the two previous ones, saw France still financing the war on credit, primarily by the use of short time securities. Such a course made inevitable the emission of a third bond issue which should take up a part at least of this floating debt. Accordingly in November, 1917, a third permanent loan was made. This time it consisted of a 4 per cent perpetual *rente*, issued at 68.60. The total subscriptions amounted to \$2,051,-200,000.

The total cost of the war to France may now be briefly summarized. The total credits voted from August 1, 1914, to December 31, 1917, for both civil and military purposes, amount to \$20,600,000,000.

The actual expenditures for the same period have been as follows:

EXPENDITURES IN FRANCE, AUG. 1, 1914-DEC. 31, 1917

(In millions of dollars)

Period	Strictly Military Expendi- tures	Charges on Debt	Social Expendi- tures	Other Expendi- tures	Total
Aug. 1-Dec. 31, 1914	\$1,173.4	\$12.0	\$98.8	\$33.4	\$1,317.8
Jan. 1-Dec. 31, 1915	3,153.0	380.0	542.2	485.6	4,560.9
Jan. 1-Dec. 31, 1916	4,734.6	653.4	658.2	480.4	6,526.5
Jan 1-Dec. 31, 1917	5,820.0	900.0	840.0	640.0	8,232.6
Total	\$14,881.0	\$1,945.4	\$2,139.2	\$1,639.4	\$20,637.8

A comparison of the receipts and expenditures shows the steady growth of both these items. But as expenditures have outrun the receipts in ever increasing degree, greater dependence has continually been placed upon loans. The additional sums raised by new tax measures have been more than absorbed by the growing debt charges and by the deficits in the civil budget. These figures are summarized in the following table:

RECEIPTS AND EXPENDITURES OF FRANCE,  
AUG. 1, 1914-DEC. 31, 1917

(In millions of dollars)

Period	Expenditures	Revenue Receipts	Loans
Aug. 1-Dec. 31, 1914.....	\$1,317.8	* \$200.0	\$1,272.9
Jan. 1-Dec. 31, 1915.....	4,560.9	776.8	3,971.2
Jan. 1-Dec. 31, 1916.....	6,526.5	933.3	5,485.8
Jan. 1-Dec. 31, 1917.....	† 8,232.6	† 946.0	† 7,046.0
Total .....	\$20,637.8	\$2,856.1	† \$17,775.9

\* Estimated on basis of actual revenues of \$796,821,387 for the whole year.

† Last three months estimated on the basis of a vote of credit.

‡ Estimate of M. Klotz, Minister of Finance, Dec. 1, 1917.

The actual loans contracted by France during this period, as indicated in the last figure in the previous table, are shown as they existed on December 31, 1917, in the following table:

TOTAL BORROWINGS, AUG. 1, 1914-DEC. 31, 1917

Treasury bills, etc. ....	\$4,340,000,000
5 per cent loan of 1915.....	2,648,600,000
5 per cent loan of 1916.....	2,275,000,000
4 per cent loan of 1917.....	2,051,200,000
National defense obligations.....	168,000,000
Bills sold in England, etc. ....	1,468,000,000
Loans in the United States.....	600,000,000
Advance by U. S. government.....	1,285,000,000
Advances from Banks of France and Algeria.....	2,440,000,000
Additional borrowings, unclassified*.....	500,000,000
Total.....	\$17,775,800,000

\*Since Oct. 1, 1917, estimated.

To estimate the direct cost of the war to France, the strictly military expenditures plus the charges on the new debt may be taken. This would give a total for the forty-one months of

\$16,826,000,000. Or again from the total expenditures of \$20,637,800,000 there may be subtracted the normal expenditures which in the last peace year were about \$1,278,000,000. This method would give \$16,230,000,000 as the war expenditures. The average of these two, or \$16,500,000,000 would probably give as close an approximation to the truth as is possible at this time. Some of the proceeds of the new debt have undoubtedly been applied to meet the deficits in the ordinary expenditures.

## RUSSIA

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The economic and financial situation in Russia was a sound one in 1914. For several years the budget had shown a surplus, and a period of economic expansion which had set in after the war with Japan gave a firm foundation for the state finances. When the present war began the government turned at once to the Imperial Bank of Russia for assistance, and during the first few weeks received advances averaging about \$50,000,000 a week. These advances have continued down to the end of 1917. Specie payments were suspended and all checks upon note issue removed. The amount of paper money issued has swelled to enormous proportions, and there are no indications that these issues will stop as long as the war continues. They have grown from \$800,000,000 before the war to about \$8,000,000,000 at the present time and are increasing at the rate of \$416,000,000 a month.<sup>1</sup> Prices have been greatly inflated as a result, so that expenditures have been increased by reason of this factor as well as by a real expansion.

The financial policy adopted by Russia was similar to that used by Germany and was clearly stated by the minister of finance in the budget speech of March, 1916. The civil expenditure would be defrayed as far as possible out of taxation; the cost of the war and any deficits would be met by loans and paper money. The receipts and expenditures of the civil budget are first presented to show the extent of the deficits:

<sup>1</sup> Statement of M. Neckrassoff, Russian Minister of Finance, at the Moscow Conference, Aug. 25, 1917. *The Economist* (London), Sept. 1, 1917, p. 318.

CIVIL EXPENDITURES AND RECEIPTS, 1914-1917<sup>1</sup>

(In millions of dollars)

Year	Ordinary Expenditures	Ordinary Receipts	Deficit
1914.....	\$1,464	\$1,449	\$15
1915.....	1,534	1,397	137
1916.....	1,587	1,457	130
1917.....	3,061	1,870	1,191
Total.....	\$7,646	\$6,173	\$1,473

Large as were these deficits, which had to be met out of loans and paper money and must to that extent be counted in as part of the cost of the war, they were really larger than appears from this statement. In 1914 the deficit was kept down by stopping all possible expenditures for social purposes. The small deficit which resulted was met out of the free cash in the Treasury. The following year the ordinary military and naval expenditures were transferred to the war budget.

On the other hand every effort was made to increase the ordinary revenues by new tax measures. The war cut off about 80 per cent of Russia's foreign trade and deprived her of customs revenues amounting to \$250,000,000. By the abolition of the *vodka* monopoly the government sacrificed revenues amounting to about \$450,000,000. The revenues from this source have shown the following decline:

## REVENUE FROM SPIRIT MONOPOLY

1913.....	\$449,650,000
1914.....	251,950,000
1915.....	15,360,000
1916.....	25,680,000
1917.....	24,800,000

But new taxes were immediately levied and the rates of existing taxes were raised. There was an increase in the city real estate, house, and poll taxes, and in the postal, telegraph, and railroad charges. Large sums were obtained from excise taxes on sugar and tobacco. But the most important new measures

<sup>1</sup> Russian *Yearbook*, 1916, and budget reports.

introduced were the graduated income tax and the excess war profits tax, both of which were new to Russian finance. The yield of the principal taxes for 1917 was estimated in the last budget as follows: Income tax, \$65,000,000; war profits tax, \$27,500,000; tobacco excise, \$45,000,000; sugar excise, \$29,400,000; other new taxes, \$28,000,000; increases in existing taxes, \$135,000,000; state railways, \$150,000,000; total, \$479,900,000 additional war revenues. By act of July 10, 1917, finally, an emergency income tax has been levied on all persons, associations, etc., in addition to the ordinary income tax, on incomes over \$5,000; this was for the year 1917 only.

The war expenditures and receipts have been as follows during the course of the war:

WAR EXPENDITURES AND RECEIPTS, 1914-1917

(In millions of dollars)

Period	Expenditures	Receipts	
		Loans	Paper Money
Aug. 1-Dec. 31, 1914.....	\$1,673	\$ 823	\$ 548
Jan. 1-Dec. 31, 1915.....	3,621	3,765	1,338
Jan. 1-Dec. 31, 1916.....	5,600	3,900	1,740
Jan. 1-Dec. 31, 1917.....	10,000	4,000	4,986
Total.....	\$20,894	\$12,488	\$8,612

To the war expenditures here stated should be added the deficits in the civil budgets which were to be met from the proceeds of loans and taxes. This sum is given in a previous table as \$1,473,000,000, which is probably an underestimate. But if this be added to the expenditures in the foregoing table, expenditures appear to be \$21,367,000,000, and the total receipts \$21,100,000,000.

The growth of the debt of Russia may now be presented, though it must be admitted that the ultimate validity of the final figure is apparently open to question on more than one score. However, it is believed to be approximately correct as to the facts:

## GROWTH OF THE WAR DEBT, 1914-1918

(In millions of dollars)

Date	Total Amount of Debt
Jan. 1, 1914.....	\$4,414
Jan. 1, 1915.....	5,237
Jan. 1, 1916.....	9,000
Jan. 1, 1917.....	16,800
Jan. 1, 1918.....	26,500
Less prewar debt...	<u>4,414</u>
War debt.....	<u>\$22,086</u>

Of the total of \$22,000,000,000, however, approximately \$9,000,000,000 consists of non-interest bearing paper money, so that the interest bearing debt due to this war is only about \$13,000,000,000. In the next table an attempt is made to classify this debt.

## WAR LOANS OF RUSSIA, DEC. 31, 1917

(In millions of dollars)

5 per cent loan, Oct., 1914.....	\$257.5
5 per cent loan, Feb., 1915.....	257.5
5½ per cent loan, May, 1915.....	515.
5½ per cent loan, Nov., 1915.....	515.
5½ per cent loan, April, 1916.....	1040.
5½ per cent loan, Nov., 1916.....	1100.
5 per cent loan, April, 1917.....	1500.
4 per cent Exchequer bonds, Aug., 1914, March, 1915.....	310.
Currency loan, April, 1915.....	105.
Loan by United States government.....	325.
Treasury bills.....	4200.
Bills discounted in England.....	1500.
Bills discounted in France.....	500.
Bills discounted in Japan.....	150.
Loans in the United States.....	200.
	<u>\$12,475</u>

## ITALY

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Although Italy delayed her entrance into the war until May 24, 1915, her war expenditures may be said to have begun at the same time as those of the other belligerents whose active participation commenced earlier, for the costs of armament and mobilization during the months of preparation entailed heavy burdens. Her expenditures from August 1, 1914, to the end of 1917 may be stated as follows:

### ITALY'S WAR EXPENDITURES, AUG. 1, 1914-DEC. 31, 1917

Period	
Aug. 1, 1914-May 30, 1915 (preparation).....	\$180,077,000
June 1, 1915-June 30, 1916 (13 months).....	1,884,387,000
July 1, 1916-June 30, 1917 (fiscal year).....	2,437,914,000
July 1, 1917-Dec. 31, 1917 (six months).....	*1,575,000,000
Total.....	\$6,077,378,000

\* Estimated on the basis of a monthly expenditure of \$362,500,000, the average of the twelve months ending October 30, 1917.

These expenditures do not include the ordinary military expenditures contained in the prewar budgets, which amounted to about \$188,618,000 a year. For the thirty-one months of war this would amount to \$487,264,000, and if this be added to the above figures it would give a total of about \$6,600,000,000.

The money necessary to defray these expenditures was raised in Italy, as in the other countries, primarily by means of loans. First the Bank of Italy and other banks made statutory advances to the government, on terms similar to those of the Bank of France.

Treasury bills were also made use of, but not to the same extent as in England and France owing to the slighter financial development of Italy. Chief dependence has been placed on long term loans, for which moreover the duration has from the begin-

ning been fixed at a long period. About three quarters of the receipts have been derived from this source.

The finances of Italy were not in good condition when war broke out, but have nevertheless stood the shock fairly well. During the three fiscal years ending June 30, 1912, 1913, and 1914, there were deficits which averaged about \$36,000,000 yearly. Owing to the outbreak of the war a still larger deficit threatened in the following year, so increases in existing taxes were made in the fall of 1914. Rates were raised on stamp duties and bills of exchange, on motor cars and motorcycles, on imports and exports, and on incomes, and a new tax was introduced on tickets to moving picture shows. A year later increases were made in postal, telegraph and telephone charges, further additions were made to the stamp duties, and two new war taxes were introduced, one on the exemptions from military service and the other on the fees of directors of joint stock companies. A tax on war profits was introduced soon after. The revenue receipts have been as follows:

REVENUE RECEIPTS, JULY 1, 1914-DEC. 31, 1917

Fiscal Year	
1914-15.....	\$486,600,000
1915-16.....	502,800,000
1916-17.....	761,400,000
1917-18 (6 mos.)*	400,000,000
<hr/>	
Total.....	\$2,150,800,000

\* Estimated on basis of budget for 1917-18.

As the normal peace receipts were about \$400,000,000 per annum, which would be \$1,400,000,000 for the three and one-half years comprised in this table, it is evident that the additional war taxes and public service receipts amount in round numbers to about \$600,000,000. But this is all absorbed by the increasing debt charges, which amount to over \$200,000,000 a year, and the other increases in the civil budget owing to the war. Consequently the war expenditures have been met practically altogether out of loans and other credit instruments.

The growth of the war debt is indicated briefly in the following table:

WAR DEBT, 1915-17

Period	
Jan. 1-Dec. 31, 1915.....	\$650,000,000
Jan. 1-Dec. 31, 1916.....	2,562,000,000
Jan. 1-Dec. 31, 1917*.....	2,906,000,000
Total.....	\$6,118,000,000

\* Last six months estimated on basis of estimate of Italian correspondence in *The Economist* (London), Sept. 22, 1917, p. 425.

Italy's debt can be given as it existed at the end of the last fiscal year, June 30, 1917; subsequent operations are not yet reported and can therefore only be estimated. The following statement is based on the official returns of the Treasury:

ITALY'S WAR DEBT, DEC. 31, 1917

4½ per cent loan, Jan., 1915.....	\$200,000,000
4½ per cent loan, July, 1915.....	230,000,000
5 per cent loan, Jan., 1916.....	526,600,000
5 per cent loan, Jan., 1917.....	722,000,000
Treasury coupon bonds (5%).....	260,000,000
British and French advances.....	750,000,000
Loans from the United States*	500,000,000
Bank and state notes.....	621,200,000
Treasury bills (estimated).....	700,000,000*
Total .....	\$4,509,800,000
Estimated loans July 1-Dec. 31, 1917.....	1,600,000,000
Total, Dec. 31, 1917.....	\$6,109,800,000

\* Actual, Dec. 31, 1917; *Commercial and Financial Chronicle*, Jan. 5, 1918, p. 19.

## OTHER ENTENTE ALLIES

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The expenditures of Belgium have been financed chiefly by advances on the part of Great Britain, France, and more recently of the United States. The advances of this government down to December 31, 1917, amounted to \$77,400,000. The total war costs of Belgium may be estimated at \$900,000,000.

Serbia likewise has issued no loans, but has had her expenditures defrayed out of advances by Great Britain and France. Her total war costs may be given as \$780,000,000, of which \$4,000,000 consist of advances by the United States government.

Rumania has been financed for the most part by the same powers. No records could be found of any loans by that country. The United States government advanced \$5,000,000 to Rumania, but this was done through Russia and appears in the loans to that country. The total war costs for Rumania were about \$760,000,000.

Montenegro is estimated to have spent about \$21,000,000.

Cuba has issued a "war loan" of \$30,000,000.

Japan's expenditures may be estimated at about \$200,000,000, but half of this consisted of loans to Russia and should be deducted as it has already been counted as part of Russia's cost.

These items make a total of \$2,591,000,000. But such a tabulation leaves out a number of countries which, while they have contributed little, in a military way, have incurred very real expenditures. If the figure just given were doubled, a generous estimate would be made to cover all omissions. The expenditures of the smaller Allied states may then be set down at \$5,000,000,000.

## GERMANY

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The original policy adopted by Germany of financing the war was by loans and the issue of paper money. Taxes were not to be imposed during the period of the war, according to the plan announced by Dr. Karl Helfferich, the Imperial Minister of Finance.<sup>1</sup> They would not only be burdensome, but they would be unnecessary, for this financial policy was based upon the assumption of a speedy victory and the collection of an enormous indemnity from the conquered peoples.

When war broke out the government turned at once to the Reichsbank for its immediate needs. The relation of the Reichsbank to the Imperial government is very close, and from the beginning the resources of the bank were placed at the disposal of the government. The metallic reserve in the government war chest, amounting to \$60,000,000, was handed over to the bank, and against this bank notes were issued in exchange. For the first three months the war was conducted with money obtained from the Reichsbank,<sup>2</sup> but by September the floating debt had become uncomfortably large and it was funded by the issue of a loan.

This was evidently done in pursuance of a carefully thought-out policy of financing the war by means of advances from the Reichsbank and the sale of short term Treasury bills and then funding these at half yearly intervals into long-term bonds. Every six months since the war began, in September and March, the German Treasury has issued a popular loan. The direct costs of the war to the government may therefore be gauged fairly

<sup>1</sup> Budget speech of March, 1915, and again August 20, 1915.

<sup>2</sup> In the period Aug. 1-15 the bank advanced \$361,500,000 to the government. *Die Kriegsfinanzen der europäischen Grossmächte*, by O. Schneider, *Schmoller's Jahrbuch* (1915), 39 Jahrgang, 3 Heft, 266.

accurately by the amount of the loans, at least during the earlier period. Owing to the secrecy maintained by the German government regarding its financial transactions, and the difficulty of securing the few facts which are published, these and the votes of credit are practically the only accurate data upon which an estimate may be based.

Imperial revenues for the fiscal year ending March 31, 1915, had been estimated in the budget of the preceding year at \$830,770,350. This was for the civil budget, which was sharply distinguished from the military budget. The latter was to be met solely by loans. The former was to be met by existing taxes and other sources of revenue so long as it balanced. Only in the event of a deficit would any new taxes be imposed.

Owing to the almost complete interruption of foreign trade the receipts from customs duties, which amounted to \$208,328,650 in 1913, declined greatly, but a deficit for the year was prevented by transferring the whole of the military and naval outlay (amounting in 1913-14 to \$344,425,000) from the ordinary civil budget to the extraordinary war budget. In this way not only was a deficit prevented, but Dr. Helfferich was able to announce a surplus for the year of \$54,750,000.

The following March, however, in presenting the budget for the fiscal year 1916-17, Dr. Helfferich stated<sup>1</sup> that owing to the great increase in the service of the Imperial debt, which was \$575,750,000, as against \$317,000,000 in 1915, and \$62,500,000 in the last peace budget, even this formal balance could not be maintained. In the ordinary budget there was a falling off of over \$36,000,000 in receipts as compared with 1915 and an increase of over \$84,000,000 in expenditures, which gave a deficit of \$120,000,000.

To meet this deficit new or additional taxes were authorized on war profits, tobacco and cigarettes, bills of lading and receipts, and increased postal, telegraph and telephone rates. The estimated yield from these taxes was \$125,000,000, but the actual

<sup>1</sup> Budget speech of March 16, 1916.

yield has been kept a secret as has every vital point connected with German finance.

By the end of the year the debt charges had risen to \$891,-500,000 and a larger deficit in the ordinary budget was reported.<sup>1</sup> which made necessary still further recourse to taxation to maintain even a formal balance. The new taxes authorized at this time consisted of a tax on coal of 37½ to 50 cents per ton, a traffic tax on freight and passenger traffic on railroads and internal shipping, an increase of 20 per cent in the war profits tax, and a tax on the Reichsbank. The total yield from these sources was estimated at \$312,500,000.

In addition to these annual taxes a capital levy on property was made which was to bring in \$500,000,000. This seems to have been a single contribution rather than a recurring impost. Altogether the amount collected by the Imperial government by additional taxation during the war seems to have amounted to about \$937,500,000.

In addition to this many expenses fell upon the separate states and municipalities which in the other belligerent countries are borne by the central government. It is impossible even to estimate these, but it is known that the existing taxes in the states and local governments have been greatly increased, in some cases being more than doubled. It has been estimated<sup>2</sup> that the single item of expenditures for the support of the soldiers' families, which in Germany is met by the municipalities, is \$37,500,000 a month, which would amount for the forty-one months of the war from August 1, 1914, to December 31, 1917, to \$1,537,500,000.

The expenditures of Imperial Germany on the war are best estimated by taking the votes of credit granted by the Reichstag. As it is constitutionally necessary to have the money appropriated by Parliament these votes are matters of public record and the figures may be accepted as accurate. No details as to how these sums are expended are, however, made public. From the begin-

<sup>1</sup> Budget speech of Feb. 23, 1917.

<sup>2</sup> *Finanz-Archiv*, 1916, Bd. 23, Heft 2, p. 228.

ning of the war to the end of December, 1917, the Reichstag has granted ten votes of credit, as follows:

GERMANY'S VOTES OF CREDIT

1. August 1, 1914.....	\$1,250,000,000
2. December 3, 1914.....	1,250,000,000
3. March 22, 1915.....	2,500,000,000
4. August 31, 1915.....	2,500,000,000
5. December 24, 1915.....	2,500,000,000
6. June 9, 1916.....	3,000,000,000
7. October 30, 1916.....	3,000,000,000
8. February 23, 1917.....	3,750,000,000
9. July, 1917 .....	3,750,000,000
10. December 1, 1917.....	3,750,000,000

Total..... \$27,250,000,000

It was stated at the time the last vote was granted that the German treasury had funds sufficient to carry it to the end of the calendar year and that the additional \$3,750,000,000 was necessary to meet the costs of the war from that date to the end of the fiscal year, March 31, 1918. If this be accepted as true, and the amount of this last vote be subtracted, there still remains the enormous sum of \$23,500,000,000 as the war expenditures to December 31, 1917.

As a basis for estimating Germany's war costs there is one other set of figures available, and these are the loans made by the Imperial government down to December 31, 1917. Seven of these have thus far been floated, which are described in the following table:

GERMANY'S WAR LOANS

No.	Date of Issue	Character	Amt. Subscribed	Rate of Int. %	Price of Issue	Repayable at par by Drawings between	Date Due	Irredeemable before
1. Sept. 10-19, 1914,		{ Imperial loan, Treasury bonds,	\$870,000,000	5	97½		1918-20	1924
2. Feb. 27-March 19, 1915,		{ Imperial loan, Treasury bonds,	2,082,500,000	5	97½		1921-22	1924
3. Sept. 4-22, 1915,		{ Imperial loan, Treasury bonds,	193,750,000	5	98½		...	1924
4. March 4-22, 1916,		{ Imperial loan, Treasury bonds,	3,040,750,000	5	99		...	1924
5. Sept. 4-Oct. 5, 1916,		{ Imperial loan, Treasury bonds,	2,298,750,000	5	98½		1923-32	1924
6. March 4-April 18, 1917,		{ Imperial loan, Treasury bonds,	393,000,000	4½	95		1923-32	1924
7. Sept.-Oct., 1917,		{ Imperial loan, Treasury bonds,	2,394,500,000	5	98		...	1924
			468,250,000	4½	95		1923-32	1924
				5	98			1924
				4½	98	(*)	..	1924
				5	98	(*)	...	1924
				4½	98		..	..

Total, \$18,340,415,000

(\*) Redeemable by drawings from Jan. 1, 1918, at 110 per cent.

In addition to the funded debt, amounting at this time to \$18,340,500,000, there is a large floating debt consisting of outstanding Treasury bills whose mass was too large to be funded by the last loan, successful as that was, and which has been swelled since by the daily borrowings of the German Treasury. The last official estimate of Germany's expenditures was made last July by Count von Rodern, the Imperial Minister of Finance, when requesting the ninth vote of credit. He announced that the monthly expenditure from February to May had been \$750,000,000 a month. This would give a daily expenditure of \$25,000,000. In view of all these facts it is probably no exaggeration to estimate the floating debt—Treasury bills, advances of the Reichsbank, etc.—at \$5,000,000,000.

The sums raised to defray the cost of the war to Germany to the end of the year 1917 may then be stated as follows:

RECEIPTS OF GERMANY, AUG. 1, 1914-DEC. 31, 1917	
War chest fund .....	\$60,000,000
Additional taxes .....	937,500,000
Loans .....	18,151,500,000
Treasury bills, etc. .....	5,000,000,000
<hr/> Total .....	\$24,149,000,000

As this figure agrees so closely with the sum of the first nine votes of credit—\$23,500,000,000—this may be accepted as presumptive evidence of its correctness.

But huge as this sum is, it by no means measures completely the cost of the war to Germany. In the case of the other nations the money outlay may be accepted as a correct statement of cost. Not so Germany. For years she had been preparing for this conflict and had collected immense stores of materials, munitions, and supplies of every kind. Part of the real cost is represented therefore by outlays made in previous years. Since the war began she has moreover exacted tribute from the occupied territory, which was estimated in October of this year at \$1,600,000,000 in the case of Belgium alone.<sup>1</sup> The exploitation of the resources

<sup>1</sup> Washington Associated Press dispatch of October 20, 1917.

and people of Belgium, northern France, Poland, and Roumania must also be counted in any comparison, as such items have been paid for in other countries. Taking all these facts into consideration the real cost of the war to the German Empire at the end of three and a half years, irrespective of the burdens on the states and municipalities, may be reckoned as considerably in excess of \$25,000,000,000.

## AUSTRIA-HUNGARY

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The finances of the dual empire were probably in worse condition at the outbreak of the war than were those of the other belligerents. For ten years the government had been facing deficits, owing primarily to the cost of armament, and had met these by borrowing. Consequently the debt was large and the credit of the country impaired.

When the war began the bank act, requiring a 40 per cent reserve to be held by the Imperial Austro-Hungarian Bank against its notes, was suspended (which meant a suspension of specie payments), the publication of the bank reports was prohibited, and a general moratorium proclaimed.<sup>1</sup> The note issues have since been greatly increased as the suspension of specie payments removed the check on inflation. By the end of 1917 they were \$3,400,000,000.<sup>2</sup> To procure funds to meet its immediate needs the government entered into an arrangement with the banks by which they were to advance money in return for Treasury bills, which they agreed to sell to the public on commission. No statement has been published as to the amount of these issues.

In November the first funded loan was issued. As in Germany, so also in Austria-Hungary these loans have followed a prearranged plan and have been issued at half yearly intervals every November and May. In contradistinction from the German policy, however, the proceeds of the loan were not used to repay the advances of the banks and to fund the outstanding Treasury bills, but were applied to the payment of contractors and other future needs, while the floating debt was renewed.<sup>3</sup>

<sup>1</sup> N. Federn, *Oesterreich-Ungarns Geld und Kreditwesen im Kriege*, 1914. In *Archiv für sozialwissenschaften*, Bd. 40, Heft 2.

<sup>2</sup> *The Chronicle*, Jan. 5, 1918, p. 18.

<sup>3</sup> O. Schneider, *loc. cit.*, p. 272.

So far as can be ascertained no portion of the cost of the war has been met out of taxes. Indeed the civil budget has shown a steadily growing deficit, owing to the increase in the debt charges, which the ordinary taxes can not meet.

In the budget debate of October 30, 1917, in the upper house of the Austrian Reichsrath, Baron Ernst von Plener, in an official report, stated that the cost of the war to Austria to the end of the year would amount to 55,000,000,000 crowns.<sup>1</sup> At the normal rate of exchange this would equal \$11,144,650,000. Three weeks later Premier Wekerle, of the Hungarian government, stated that the war expenditure of Hungary up to that time was \$3,500,000,000. Although the dispatch was not clear this would seem to have been included in the larger sum, thus leaving Austria's share \$7,500,000,000.

In addition to loans the largest dependence was placed upon Treasury bills, which were sold to the Austro-Hungarian and other banks. Large sums were also received from the German government and from German bankers. These are summarized in the following table:

DEBT OF AUSTRIA-HUNGARY, AUG. 1, 1914-DEC. 31, 1917

Loans .....	\$7,953,000,000
Treasury bills .....	1,700,000,000
Advances from Germany.....	575,000,000
Loans from German bankers.....	900,000,000
Total .....	\$11,128,000,000

The funded debt, consisting of seven loans, issued at half yearly intervals, now amounts to \$7,953,000,000. The several issues are given in the following table:

<sup>1</sup> *The Chronicle*, Nov. 3, 1917, p. 1738.

## WAR LOANS OF AUSTRIA-HUNGARY

No.	Date of Issue	Rate of Int. %	Amount
1. Nov., 1914	Austrian, 5½	\$427,200,000	
	Hungarian, 6	234,000,000	
2. May, 1915	Austrian, 5½	556,000,000	
	Hungarian, 6	224,800,000	
3. Nov., 1915	Austrian, 5½	815,000,000	
	Hungarian, 6	240,000,000	
4. May, 1916	Austrian, 5½	904,000,000	
	Hungarian, 6	300,000,000	
5. Nov., 1916	Austrian, 5½	892,000,000	
	Hungarian, 6	320,000,000	
6. May, 1917	Austrian, 5½	981,800,000	
	Hungarian, 6	300,000,000	
7. Nov., 1917	Austrian, 5½	1,160,200,000	
	Hungarian, 6	600,000,000	
Total			\$7,953,000,000

## TEUTONIC ALLIES

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Turkey has issued a number of loans, both at home and abroad. Most of the external loans were placed in Germany, though a small amount was floated in neutral countries. By a curious stroke of irony a Turkish loan had been placed in France shortly before the outbreak of the war, part of the proceeds of which were undoubtedly used to meet war expenditures. Paper money has also been issued freely. But the main source of supply of Turkish finances has been the German government, which is reported to have notified Turkey and Bulgaria that she would assume all expenses incurred by those countries in the campaign of 1917-18.<sup>1</sup> The Turkish debt was stated toward the close of the year 1917 to amount to £1230,000,000,<sup>2</sup> or \$1,012,000,000.

Bulgaria also has been financed in large part by Germany. Some internal loans have also been issued. The total cost of the war to Bulgaria may be estimated at about \$1,250,000,000.

<sup>1</sup> *Business Digest*, Aug. 8, 1917, p. 1127.

<sup>2</sup> *The Economist* (London), Nov. 10, 1917, p. 769.

## CONCLUSION

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It is now possible to bring together the final figures for all the belligerent countries and to estimate the total cost of the war for the three years and five months of its continuance, from August 1, 1914, to December 31, 1917. For purposes of comparison the population, national wealth, and income of the various belligerents are also given.

### POPULATION, WEALTH, AND WAR EXPENDITURES<sup>1</sup>

(000's omitted)

Country	Population	National Wealth	National Income	Direct War Expenditures
United States .....	102,826	\$220,000,000	\$38,000,000	\$6,434,000
Great Britain .....	46,499	88,060,000	10,700,000	21,000,000
Rest of British Empire	403,122	45,520,000	6,723,000	2,381,000
France .....	39,948	59,000,000	7,300,000	16,500,000
Russia in Europe.....	141,679	60,160,000	6,500,000	22,000,000
Italy .....	35,597	20,000,000	4,000,000	6,110,000
Belgium, Serbia, Rumania .....	16,700	15,000,000	1,500,000	2,500,000
Other Allies* .....	.....	.....	.....	2,500,000
Total Entente Allies	786,371	\$507,740,000	\$74,723,000	\$79,425,000
Germany .....	68,442	\$83,250,000	\$10,500,000	\$25,000,000
Austria-Hungary .....	51,080	55,580,000	5,500,000	11,144,000
Turkey, Bulgaria.....	27,000	4,000,000	1,000,000	2,262,000
Total Central Powers	146,522	\$142,830,000	\$17,000,000	\$38,406,000
Grand total .....	932,893	\$650,570,000	\$91,723,000	\$117,831,000

\*The other Allies, not enumerated in this table, which have declared war on Germany are Brazil, China, Cuba, Greece, Japan, Liberia, Montenegro, Panama, Portugal, San Marino, and Siam.

<sup>1</sup> The statistics of population are taken from articles by Edgar Crammond, *The Cost of the War*, in *Journal Royal Statistical Society*, May, 1915, p. 362, and by W. S. Rossiter, *The Economic Costs of War*, in *The American Economic Review*, March, 1916, Supplement, p. 104; where these failed Webb's Dictionary of Statistics was referred to. Figures of national wealth and income are taken from the same sources, supplemented by K. Helfferich, *Germany's Economic Progress and National Wealth, 1888-1913*, and Pierre Leroy-Beaulieu, *Les impôts et les revenues en France, en Angleterre, et en Allemagne* (Paris, 1914).

